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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/578,882	05/26/2000	Peter J. Miller	34250-20	9739

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EXAMINER	
GENCO, BRIAN C	

ART UNIT	PAPER NUMBER
2615	10

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/578,882	MILLER, PETER J.	
	Examiner	Art Unit	
	Brian C Genco	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-33 is/are pending in the application.

4a) Of the above claim(s) 3-6,8,12,13,16,18-20,26 and 29-33 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,2,7,9-11,14,15,17,21-25,27 and 28 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 26 May 2000 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2-4.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Election/Restrictions

In order to clarify the two sets of species, Examiner notes that each of Species I-III are shown in Figs. 1, 2, and 13 respectively. Each of these distinct embodiments comprise a tunable filter. Applicant discloses five distinct tunable filter types to make up Species A-F. Examiner notes that Species C and Species E are the same, namely an electronically-controllable birefringence (ECB). As such, there are 15 separate species since Species C and Species E are the same.

Applicant requested that the generic claims be clarified. Examiner notes that claims 1, 9-11, 15, 21, 22, 24, 25, 27, and 28 are generic to Species I-III as well as Species A-F. Claims drawn to any one of Species I-III are generic to Species A-F, namely, claim 14 is drawn to elected Species I, wherein claim 14 is generic to each of Species A-F. However, claims drawn to Species A-F are not generic to Species I-III.

Applicant's election with traverse of Species I and Species C in the reply filed on June 11, 2004 is acknowledged. The traversal is on the ground(s) that a *prima facie* showing of serious burden has not been made. This is not found persuasive because as noted in MPEP 806.04(a), a reasonable number of species may be claimed in one application wherein Examiner asserts that the Examination of the 18 distinct species presented by Examiner in the election requirement of Paper No. 8 is not a reasonable number and as such is a serious burden to the Examiner.

Examiner notes that Applicant asserts that claim 7 is the only claim that fulfills the restriction requirement. Examiner notes however that claims 1, 9-11, 15, 21, 22, 24, 25, 27, and 28 are generic. Further, in electing Species I, Applicant has elected claims 2, 14, and 17; and in electing Species C, Applicant has elected claims 7 and 23. Therefore, of pending claims 1-33,

claims 1, 2, 7, 9-11, 14, 15, 17, 21-25, 27, and 28 will be examined and claims 3, 4, 12, and 16 are withdrawn as being drawn to non-elected Species II; claim 13 is withdrawn as being drawn to non-elected Species III; claims 5, 31, and 33 are withdrawn as being drawn to non-elected Species A; claim 6 is withdrawn as being drawn to non-elected Species B; claim 8 is withdrawn as being drawn to non-elected Species D; claims 18-20, 26, 29, 30, and 32 is withdrawn as being drawn to non-elected Species F.

The requirement is still deemed proper and is therefore made FINAL.

Examiner reminds Applicant that upon the allowance of a generic claim, Applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, Applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Further, should Applicant traverse on the ground that the species are not patentably distinct, Applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the Examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Drawings

Figures 3-5 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) mentioned in the description: as described in the specification on line 10 of page 3 element 63 is not shown in Fig. 6. Examiner notes that it appears that Applicant intended to indicate in the specification that the variable retarder element is element 64 and the slow axis is element 65. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Double Patenting

Applicant is advised that should claim1 be found allowable, claims 15, 21, and 22 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. Further, claims 2 and 17 appear to be duplicate claims, as well as claims 24, 25, 27, and 28 appear to be duplicate claims. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Examiner reminds Applicant that a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 10, 11, 14, 15, 17, 21, 22, 24, 25, 27, and 28 rejected under 35 U.S.C. 102(b) as being anticipated by (USPN 5,469,524 to Farrell et al.).

In regards to claim 1 Farrell discloses an imaging system to capture an accurate color image of a scene when illuminated by light, comprising in optical series

a tunable filter tunable between a first state wherein light transmitted by the filter has a first spectrum and a second state wherein the light transmitted by the filter has a second spectrum different from the first spectrum (e.g., the filter comprising elements 116 and 118 wherein the first state is when the filter element 116 is moved out of the optical axis by the moving mechanism 118 and the second state is when the filter element 116 is moved into the optical axis by moving mechanism 118; column 3, lines 1-7 and 14-25); and

a color detector that captures an image of the scene by recording the light transmitted through the filter when the filter is in the first state, and then recording the light transmitted through the filter when the filter is in the second state (e.g., column 2, lines 60-67 and column 3, lines 9-25; column 5, lines 20-35).

In regards to claim 2 in the second state the filter element 116 is removed from the optical axis, therefore the tunable filter comprising elements 118 and 116 transmits incident light of all wavelengths to a substantially equal degree.

In regards to claim 10 see Fig. 1 wherein the image is two-dimensional.

In regards to claim 11 see column 2, lines 61-64.

In regards to claim 14 as shown in Fig. 1 the filter is disposed between the scene and the detector.

In regards to claim 15 see Examiners notes on the rejection of claim 1. The preamble of claim 15 has not been given patentable weight. Examiner reminds Applicant that a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or

the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

In regards to claim 17 see Examiners notes on the rejection of claim 2.

In regards to claims 21 and 22 see Examiners notes on the rejection of claim 1.

In regards to claims 24, 25, 27, and 28 see Examiners notes on the rejections above. Note the disclosure of Farrell on column 5, lines 20-35 in particular.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 5,469,524 to Farrell et al.).

In regards to claim 9 Farrell does not disclose nor preclude that the color detector be a CMOS detector. Examiner notes that it is extremely well known in the art to use CMOS detectors in order to enable high integration and low power sensors. Official notice is taken. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a CMOS detector in order to enable high integration and low power sensors.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 5,469,524 to Farrell et al.) in view of (USPN 5,347,378 to Handschy et al.).

In regards to claim 7 Farrell discloses a tunable filter that mechanically moves a filter into and out of an optical axis. Farrell does not disclose nor preclude that the tunable filter comprise an ECB type cell.

Handschy discloses that simplest tunable filters are mechanical such as a filter wheel, however, these mechanically tuned filters are unsuitable since they are slow (column 1, lines 39-45 and column 1, line 66 – column 2, line 2). Handschy then goes on to disclose that a Lyot filter with a birefringence cell being electro-optically tuned is advantageous since it has a fast switching time (column 2, lines 3-13). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a tunable filter comprising an ECB type cell such as the Lyot filter in order to enable faster switching than the mechanically tunable filter of Farrell.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 5,469,524 to Farrell et al.) in view of (USPN 5,347,378 to Handschy et al.) in view of (USPN 5,892,612 to Miller et al.).

In regards to claim 23 the combination of Farrell and Handschy discloses to use an ECB tunable filter in the Farrell invention, however does not explicitly disclose nor preclude the particular filter disclosed in claim 23. Miller discloses the particular filter as claimed in claim 23 through at least Fig. 3 and column 5, lines 22-40 wherein Miller further discloses that having a filter with a filter state and a white state is of particular advantage to digital photography systems in column 3, lines 41-48. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized Miller's filter in Farrell's invention in order to enable the filtered and white state disclosed by Farrell but utilizing an ECB filter so as to enable faster switching as disclosed by Handschy.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian C. Genco who can be reached by phone at 703-305-7881 or by fax at 703-746-8325. The examiner can normally be reached on Monday thru Friday 8:30am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is 703-308-4357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian C Genco
Examiner
Art Unit 2615

July 6, 2004

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